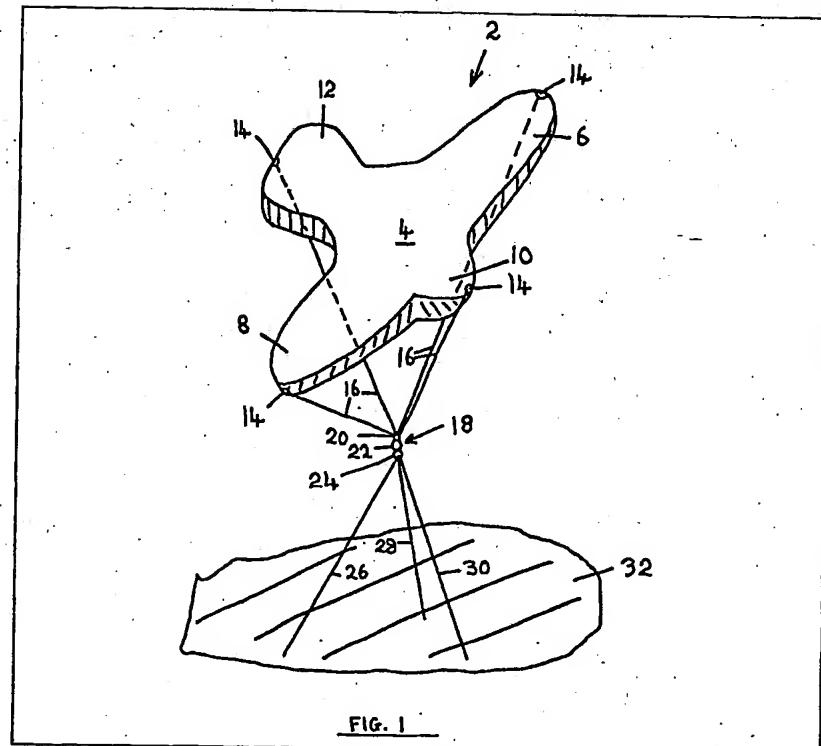


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(71) Applicant  
Stephen John Gresham,  
2 Stoneway Park,  
Stone Street,  
Canterbury,  
Kent.  
(72) Inventor  
Stephen John Gresham  
(74) Agents  
Graham Jones & Company

(54) An animal scaring device

(57) An animal scaring device (2) comprising an inflatable balloon (4) which is adapted to be inflated with a gas which is lighter than air and which is in the shape of a bird of prey when it is inflated, and attachment means (14, 16) for receiving one or more lines for use in tethering the inflated balloon (4) above the ground, the balloon (4) being made of a plastics material which is treated with a sealing material which is effective to prevent appreciable loss of the gas through the plastics material when the balloon is inflated.



The drawings originally filed were informal and the print here reproduced is taken from a later filed formal copy.

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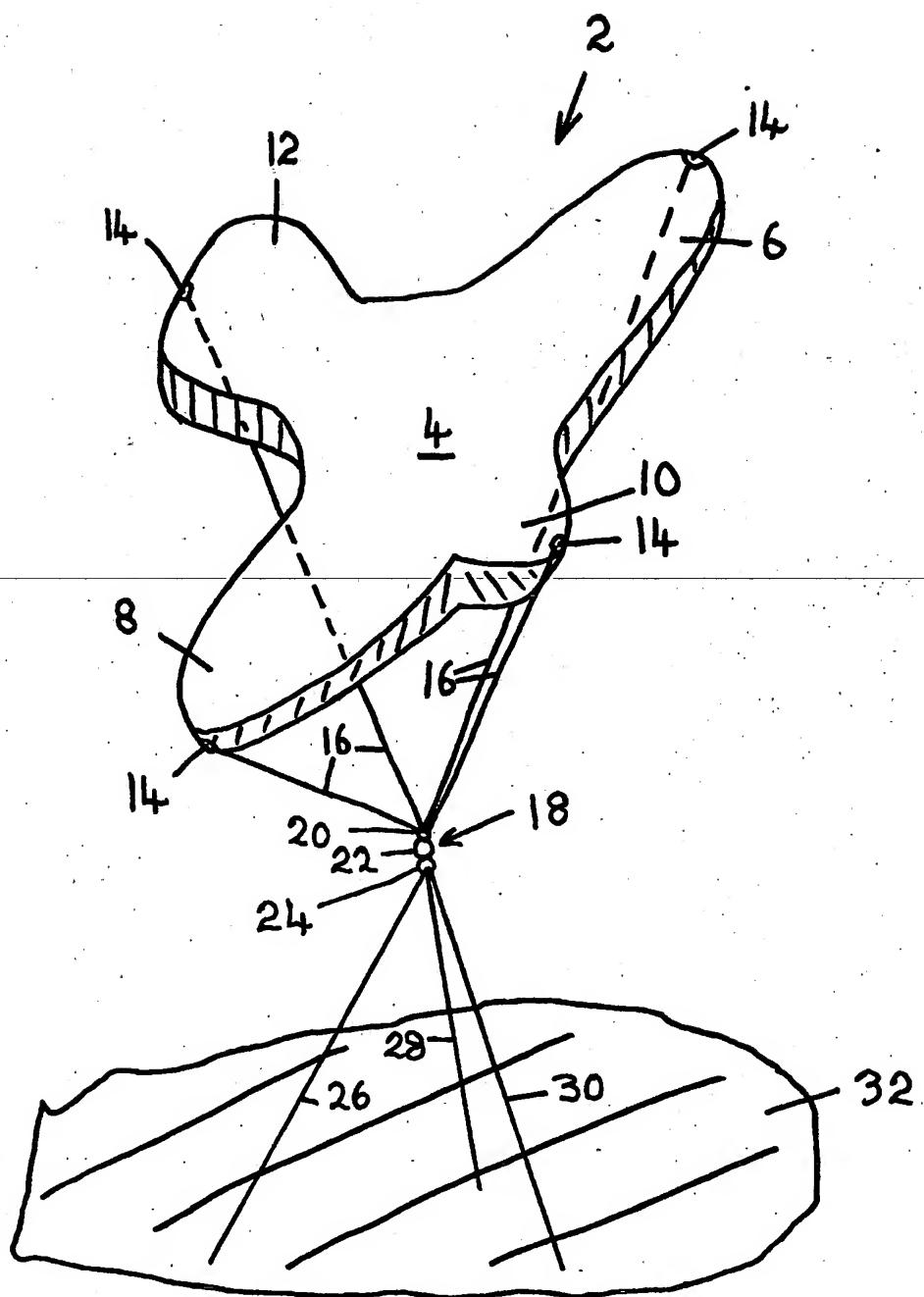


FIG. 1

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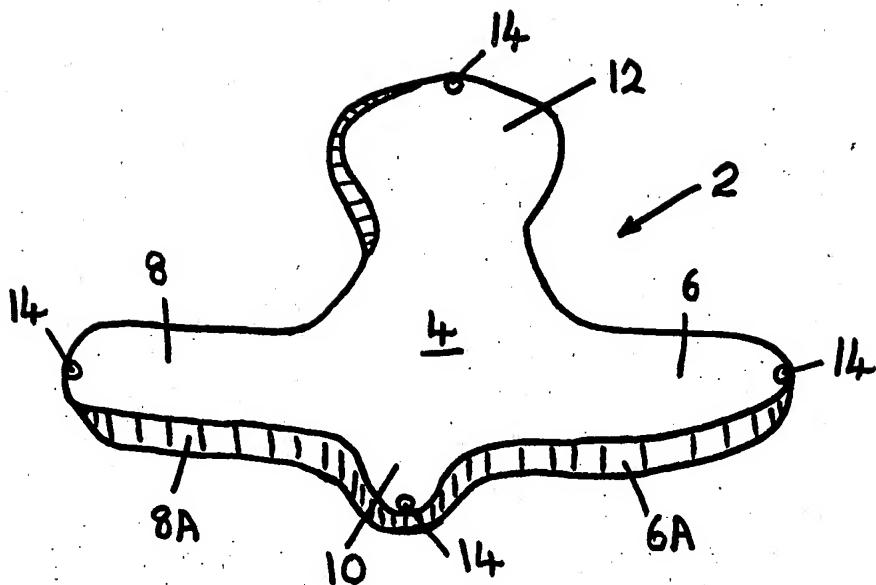


FIG. 2

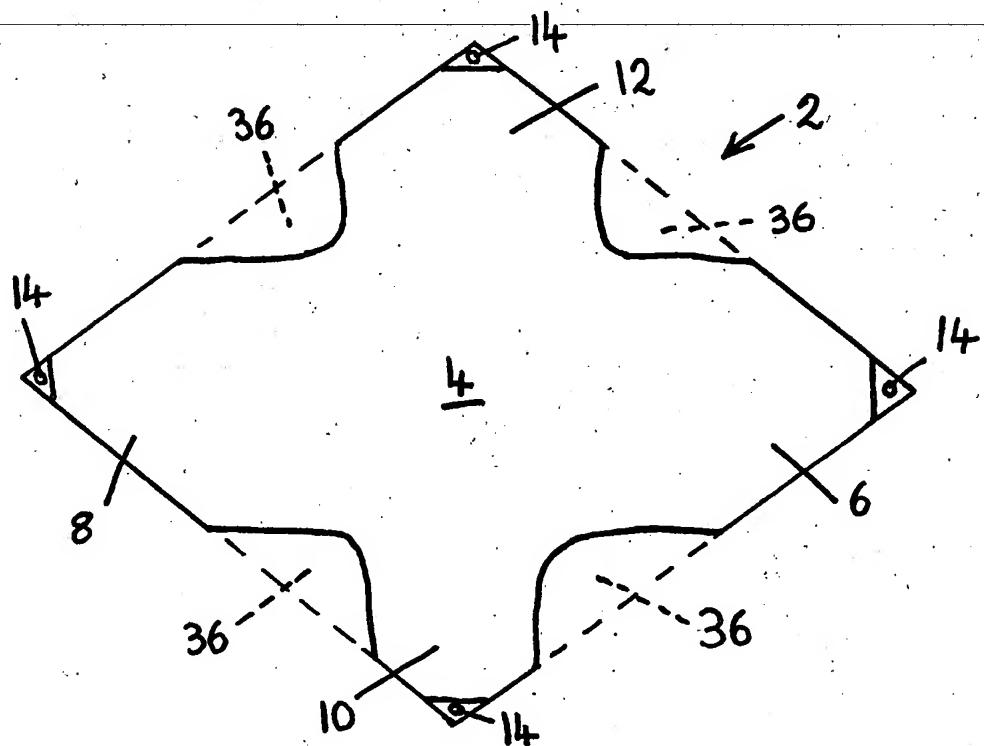


FIG. 4

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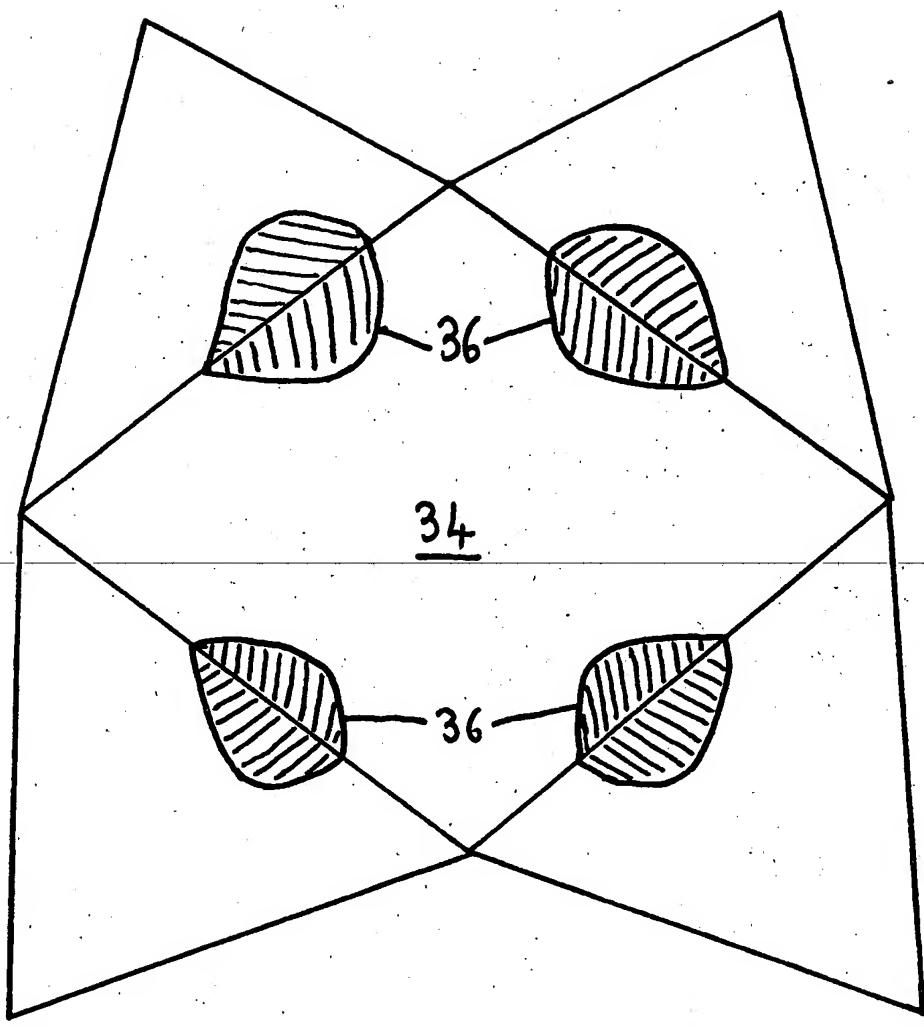


FIG. 3

**SPECIFICATION****An animal scaring device**

- 5 This invention relates to an animal scaring device. An animal scaring device is known which comprises an inflatable plastics balloon which is adapted to be inflated with gas which is lighter than air and which is in the shape of a hawk. The hawk is known 10 to be a bird of prey and the animal scaring device operates such that the plastics balloon is inflated and the animal scaring device is tethered above the ground and scares animals such for example as birds and vermin away from products such for 15 example as vegetables and fruit.
- The inflatable balloon obviously has to be inflated with a gas which is lighter than air in order to enable the animal scaring device to remain aloft. The known animal scaring device suffers from the disadvantage 20 that the plastics material of the inflatable balloon is such that the gas can escape through the plastics material over a period of time. The inflatable balloon thus has to be periodically re-inflated and this is time consuming and inconvenient.
- 25 It is an aim of the present invention to provide an animal scaring device which is not subject to the above mentioned disadvantage.

Accordingly, this invention provides an animal scaring device comprising an inflatable balloon 30 which is adapted to be inflated with a gas which is lighter than air and which is in the shape of a bird of prey when it is inflated, and attachment means for receiving one or more lines for use in tethering the inflated balloon above the ground, the balloon being 35 made of a plastics material which is treated with a sealing material which is effective to prevent appreciable loss of the gas through the plastics material when the balloon is inflated.

The animal scaring device of the present invention 40 can thus remain aloft for extended periods such for example as one or more months so that growing crops can fully mature and be harvested without the need to re-inflate the balloon.

The sealing material may be applied on the 45 surface of the plastics material. Advantageously, the sealing material is a metallic material but it to be appreciated that the sealing material may be a non-metallic material such for example as a plastics material if desired. Preferably, the metallic material is aluminium.

Advantageously, the metallic material is vacuum deposited onto the surface of the plastics material. The metallic material may be otherwise provided on the plastics material if desired.

55 Preferably, the plastics material is treated with an ultra-violet light inhibitor in order to prevent premature deterioration of the plastics material. The ultra-violet light inhibitor may be a separate material which is applied to the plastics material or, alternatively, the ultra-violet light inhibitor may be combined with the sealing material. For example, when an aluminium film is vacuum deposited onto the surface of the plastics material, the aluminium deposits in the pores of the plastics material and it 60 acts both as a sealing material and as an ultra-violet

light inhibitor.

Preferably, the sealing material is a polyester material. A presently preferred polyester material is a polyethylene terephthalate material.

- 70 The inflatable balloon will usually be coloured with the colours of the bird of prey that it is to represent. Thus, for example, the inflatable balloon may be coloured with the colours of a hawk. If desired, the colours of an eagle or other bird of prey 75 can be employed.

Advantageously, the balloon is made from a sheet of plastics material which is folded, then welded, and then cut in desired places to give the outline of the bird of prey.

- 80 When the balloon is inflated, the wings advantageously slope upwardly and backwardly towards the tail of the balloon. When the animal scaring device is in use, air currents tend to hit the sloping parts of the wings and to cause the tail of the balloon 85 to rise. The air currents then hit the front parts of the wings to rise. The process is continuously repeated so that the balloon appears to be diving and swooping in a life-like manner.

- 90 Preferably, the attachment means comprises eyelets in the balloon. Preferably, there is an eyelet in each of the two wings, the head and the tail of the balloon.

- The animal scaring device may include a line 95 extending from the attachment means to a single connection point, the connection point being adapted to receive one or more guy lines secured to the ground. The guy lines can be secured directly to the ground or, alternatively, indirectly to the ground 100 through, for example, a tree, bush or stone. The single connection point will usually act as a swivel joint in order to enable the animal scaring device to easily swoop up and down whilst being tethered to the said one or more guy lines.

- 105 The animal scaring device of the present invention also extends to the case where the said one or more guy lines are provided as part of the animal scaring device. The balloon may include a valve for inflating the balloon. The valve may be a one or two way

- 110 valve or it may be a permanently sealable neck portion of the balloon.

- The animal scaring device of the present invention further extends to the case where the device is in an inflated condition and the animal scaring device will 115 then include the gas which is lighter than air.

Examples of suitable gases that may be employed are helium, hydrogen and helium balloon gas.

- The animal scaring device of the present invention may be made in various sizes depending upon the use to which it is to be put. For example, on farms the animal scaring device may be made fairly large. On farms where a large number of the devices will be required, it may be convenient to fill the devices from a single pressurised gas container. When the 120 animal scaring devices are to be used in gardens, they will usually be of a small size and not many of them will be used at once. It may thus be more convenient to provide these animal scaring devices with their own inflation packs such for example as a

- 125 small tin of pressurised lighter than air gas.

An embodiment of the invention will now be described solely by way of example and with reference to the accompanying drawings in which:

Figure 1 is a perspective view of an animal scaring device in accordance with the invention;

Figure 2 is a front elevation of the device shown in Figure 1;

Figure 3 shows a sheet of material for use in forming the bird scaring device illustrated in Figures 1 and 2; and

Figure 4 shows how the sheet illustrated in Figure 2 is welded and cut to form the animal scaring device illustrated in Figures 1 and 2.

Referring to Figures 1 and 2, there is shown an animal scaring device 2 comprising a balloon 4 which is inflated with a gas which is lighter than air, for example helium. It will be seen that the balloon 4 is in the shape of a hawk having wings 6, 8, a head 10, and a tail 12. The wings 6, 8 slope upwardly and rearwardly towards the tail 12 at their portions 6A and 8A.

An eyelet 14 is provided in each of the wings 6, 8, the head 10 and the tail 12. Lines 16 extend from these eyelets 14 to a swivel joint 18 which is composed of three rings 20, 22, 24. Three guy lines 26, 28, 30 are also attached to the swivel joint 18 and these guy lines 26, 28, 30 are effective to secure the animal scaring device 2 to the ground 32.

The animal scaring device 2 illustrated in Figures 1 and 2 is secured to an appropriate part of the ground 32, for example a part in which crops are growing. The inflated balloon 4 causes the animal scaring device 2 to fly continuously over the ground 32 and animals such for example as birds and vermin are frightened away from the crops on the ground 32 by what they believe to be a real bird of prey. The air currents striking the wing portions 6A, 8A cause the tail 12 to rise. The air currents then strike the tail 12 and the wing portions 6A, 8A rise. It will thus be seen that the animal scaring device 2 is constantly diving and swooping in a life-like manner.

Referring now to Figures 3 and 4, it will be seen that Figure 3 shows a flat sheet of the plastics material 34 for use in forming the balloon 4 illustrated in Figures 1 and 2. The material 34 is folded along the lines illustrated and it is then sealed together to form a single piece of material. Sealing also occurs around the edges of the shaded areas 36. The shaded areas 36 are then cut away to leave the cut and sealed shaped shown in Figure 4. By varying the shape of the initial sheet of material 34 and also by varying the shape of the shaded areas 36, the overall shape of the balloon 4 can be varied.

It is to be appreciated that the embodiment of the invention described above has been given by way of example only and that modifications may be effected. For example, more or less of the lines 16 and 26, 28, 30 can be employed. The eyelets 14 can be provided in reinforced portions of the balloon 4 if desired. The various lines can be made from nylon, wire, natural fibres or other materials and the breaking strain of the various lines can be varied. The swivel joint 18 is preferably positioned about 1 metre beneath the balloon 4 but this distance can be varied as desired. The length of the lines 26, 28, 30

can be varied as desired so that the ball 4 can be flying at a height of, for example, 70 to 200 feet above the ground.

The plastics material used for making the balloon 4 can be varied in thickness so that it can have a thickness of, for example, 12 to 40 microns. A presently preferred thickness is 20 microns. The material of the balloon 4 can be coloured by screen or other printing and the sealing of the various parts of the sheet of material 34 to form the balloon 4 can be made by heat welding, ultrasonic welding or gluing. In addition to the ground 32 that is protected by the animal scaring device being for use in growing crops, it will also be appreciated that other areas such as airport runways and places where bird excretion causes damage can be protected by the animal scaring device 2.

When the balloon is inflated, there may be a tendency for the gas to deform the desired aerodynamic shape of the animal scaring device by, for example, making it too round. It may thus be desirable to provide the balloon with reinforcing means. The reinforcing means may be positioned inside and/or outside the balloon and it may act to appropriately stress the balloon so that it will inflate to and maintain a desired aerodynamic shape.

Examples of suitable reinforcing materials that may be employed inside the balloon, for example in the form of a frame, are balsa wood, aluminium and fibre glass. Examples of reinforcing materials that may be employed outside the balloon are a netting or mesh. The netting or mesh may be fixed over a frame, for example a metal frame such as an aluminium frame.

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## CLAIMS

1. An animal scaring device comprising an inflatable balloon which is adapted to be inflated with a gas which is lighter than air and which is in the shape of a bird of prey when it is inflated, and attachment means for receiving one or more lines for use in tethering the inflated balloon above the ground, the balloon being made of a plastics material which is treated with a sealing material but is effective to prevent appreciable loss of the gas through the plastics material when the balloon is inflated.

2. An animal scaring device according to claim 1 in which the sealing material is applied on the surface of the plastics material.

3. An animal scaring device according to claim 1 or claim 2 in which the sealing material is a metallic material.

4. An animal scaring device according to claim 3 in which the metallic material is aluminium.

5. An animal scaring device according to claim 3 or claim 4 in which the metallic material is vacuum deposited on to the surface of the plastics material.

6. An animal scaring device according to any one of the preceding claims in which the plastics material is treated with an ultra-violet light inhibitor.

7. An animal scaring device according to claim 6 in which the ultra-violet light inhibitor is combined with the sealing material.

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8. An animal scaring device according to any one of the preceding claims in which the sealing material is a polyester material.
9. An animal scaring device according to claim 8 in which the polyester material is a polyethylene terephthalate material.
10. An animal scaring device according to any one of the preceding claims in which the inflatable balloon is coloured with the colours of the bird or prey that it is to represent.
11. An animal scaring device according to claim 10 in which the inflatable balloon is coloured with the colours of a hawk.
12. An animal scaring device according to any one of the preceding claims in which the balloon is made from a sheet of plastics material which is folded, then welded, and then cut in the desired places to give the outline of the bird of prey.
13. An animal scaring device according to any one of the preceding claims in which the wings of the balloon when it is inflated slope upwardly and backwardly towards the tail of the balloon.
14. An animal scaring device according to any one of the preceding claims in which the attachment means comprises one or more eyelets in the balloon.
15. An animal scaring device according to claim 14 in which there is an eyelet in each of the two wings, the head and the tail of the balloon.
16. An animal scaring device according to any one of the preceding claims including a line extending from the attachment means to a single connection point, the connection point being adapted to receive one or more guy lines secured to the ground.
17. An animal scaring device according to claim 16 in which the single connection point acts as a swivel joint.
18. An animal scaring device according to claim 16 or claim 17 including the said one or more guy lines.
19. An animal scaring device according to any one of the preceding claims in which the balloon includes a valve for inflating the balloon.
20. An animal scaring device according to claim 19 in which the valve is a one or two way valve, or a permanently sealable neck portion of the balloon.
21. An animal scaring device according to any one of the preceding claims in an inflated condition and including the gas which is lighter than air.
22. An animal scaring device according to claim 21 in which the gas is helium, hydrogen or helium balloon gas.
23. An animal scaring device according to any one of the preceding claims including reinforcing means positioned inside and/or outside the inflatable balloon.
24. An animal scaring device substantially as herein described with reference to the accompanying drawings.